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IN TWO SECTIONS

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EDITORIAL DEPARTMENT NOTE

In cost accounting, the most difficult problems are those relating to the control and distribution of the indirect expenses. Much has been written with regard to the classification and distribution of these costs, but there are still important areas of disagreement and incomplete understanding of the problems involved. The two articles in this issue of the *Bulletin* offer further contributions to our understanding of these problems. The first presents the most generally accepted practice in overhead distribution from the viewpoint of the historical development of these procedures and, in addition, provides a case study showing the application of these methods to a specific company. The second article deals with a portion of the indirect expenses—research, development and tool costs—which presents particularly difficult problems and has resulted in a variety of methods of treatment.

The author of our first article, Stanley G. H. Fitch, is a member of the firm of Patterson, Teele and Dennis, Boston, a Past President of the Massachusetts Society of C.P.A.'s, a member of the Council of the American Institute of Accountants, and a member of the Massachusetts Board of Registration of Certified Public Accountants. Mr. Fitch is a Past President of the Boston Chapter of N.A.C.A. and the author of numerous articles on accounting subjects. A graduate of the Massachusetts Institute of Technology in Chemical Engineering, he spent nine years after graduation in engineering practice and as auditor and treasurer of manufacturing corporations. He joined the staff of his present firm in 1919, and has been a partner since 1919.

Our second article is by another past chapter president, Herman A. Papenfoth, who served the Hartford Chapter as President during 1936-37. Mr. Papenfoth is a native of Connecticut and obtained his public school education there. His accounting training was obtained at the Pace Institute in New York City. His early accounting experience was gained in the cost department of the Stanley Works in New Britain, Conn. Since 1917, Mr. Papenfoth has been associated with The Trumbull Electric Mfg. Co. in the cost, statistical and accounting departments. Except for a year and a half service overseas, his service with his present company has been continuous. He is at present Chief Accountant of his company.

Articles published in the *Bulletin* present many different viewpoints. In publishing them the Association is not sponsoring the views expressed, but is endeavoring to provide for its members material which will be helpful and stimulating. Constructive comments are welcomed and will be published in the Forum Section of the *Bulletin*.

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NATIONAL ASSOCIATION OF
COST ACCOUNTANTS

JANUARY 1, 1941

DISTRIBUTION OF MANUFACTURING EXPENSES

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Introduction

ACCOUNTING terminology being what it is, let us first define our subject. What are manufacturing expenses, what do we mean by distribution, and why do we distribute manufacturing expenses?

The term "manufacturing expenses," broadly speaking, applies to all those costs which are connected with the maintenance of factory facilities and with the factory operations. More specifically the term has come to mean those costs connected with factory facilities and operations, such as taxes, insurance, superintendence and clerical labor which cannot be directly and practicably associated with units of production as can the labor of machine operators and craftsmen and the materials which enter directly into the product. The term "manufacturing expenses" is used synonymously with such terms as "indirect factory expenses," "factory overhead," "factory burden" and the English term "oncost."

The term "distribution" used in connection with manufacturing expenses means, to me, and I believe ordinarily, all the procedures and devices whereby expenditures or expenses which, having been primarily classified as connected with the factory, are further analyzed and classified and identified with or allocated to factory departments, or cost centers or machines, and thence to units of product upon the most equitable and practicable basis. In certain discussions of the subject a distinction is made between distribution and allocation, although such has not been done in this paper.

We distribute manufacturing expenses because as a lump sum they are "without form and void." Knowledge of them is acquired progressively with their distribution and analysis and, of course, in direct proportion to the time and thought expended. The behavior of manufacturing expenses as a lump sum is indeed perplexing, but upon distribution and analysis it becomes apparent that their behavior is quite rational and that there is a relationship between them and factory operating activity. Manufacturing expenses are in most cases an extremely important element of cost, and without

knowledge of their relationship to other factors which comes from adequate analysis and distribution, an industrial manager cannot (1) exercise sound judgment in pricing his company's products, (2) intelligently direct sales effort, (3) effectively carry out cost reduction measures, (4) control the amounts of the expenses themselves, (5) pursue an intelligent dividend policy, or in fact, upon a sound basis, decide the many other important matters of business policy in which the behavior of manufacturing expenses is an important consideration.

Our subject is not a new one. The conditions which gave rise to manufacturing expenses as an increasingly important factor in the scheme of things started over two centuries ago. Accountants, economists and others have all thought about it and it would be surprising indeed if it were not found (as it has been) that most of the important points in connection with the subject of manufacturing expenses and their distribution had been recorded many years ago.

I propose to dig into history to some extent and show that such is the case, to touch upon the broad principles of our subject, and then in recognition of our mutual desire as N. A. C. A. members for "what, why and how-we-do-it articles" I am going to discuss a particular case—one which I believe indicates the possession of knowledge by the cost acountant and the company as to the objectives of manufacturing expense distribution.

Historical Background

While it is probable that overhead became a problem of industry with, or shortly after, the advent of the industrial revolution in England in the eighteenth century, the cost accountants of that period were by no means as productive of literature as they have been for the past twenty or more years, and therefore—to my knowledge at any rate—there is no evidence as to when overhead first became of interest to and an important benefactor of cost accountants.

Under conditions which prevailed prior to the industrial revolution, the manufacture of cloth and other products entering into commerce was carried on in the individual household under the direction of—or at least for—an entrepreneur who supplied the raw materials and who paid the individual workmen or craftsmen

in some form or other when the raw material had been converted into a useable finished product. The entrepreneur's investment was first in raw materials and supplies and subsequently in raw materials, supplies and finished product, the exact cost of which he knew readily. He had no fixed investment in plant or equipment, for the equipment with which the product was fabricated was generally owned by the individual workman and had been made by him largely of wood in his spare time. Neither the craftsman who was "labor" nor the entrepreneur who was "capital" had any accounting problem resulting from overhead costs. In the first instance the amount received by the craftsman, measured by the subsistence for labor and the scarcity or oversupply of that commodity, provided, after a fashion, for the craftsman, his wife and family, who represented directly or indirectly supervision, indirect labor, power, heat and social security. In the second instance, the entrepreneur's costs were his payments for materials and their fabrication. If he were able, he in turn sold them for enough to provide a mode of living to which he believed his station in life entitled him.

In the eighteenth century, however, this simple state of things—at any rate, in the accounting sense—began to change. In the relatively short period between 1733 and 1785 there were invented or perfected the flying shuttle, the roller spinning frame, the spinning jenny, the spinning mule, the power loom and the steam engine. Increase in England's manufactures was rapid and between 1764 and 1834 British annual consumption of cotton increased from 4,000,000 pounds to 300,000,000 pounds. In other industries, notably woolen and worsted, adoption and application of new machinery was markedly slower, but none the less positive.

The Factory System

With this beginning of industrial progress, of course, came industrial concentration in factories with relatively large capital investments and attendant outlay for taxes, insurance, maintenance, supervision, and other items not directly traceable to any particular item of product as were raw materials and the labor of machine operators, but obvious to management as an important factor in the cost of production of goods.

The first generally known recorded mention of our subject is contained in a small book, *The Economy of Manufactures,* writ-

ten by the eminent British mathematician and inventor of the first punched card tabulating machine, Charles Babbage, in 1832. He said, "In any particular manufacture there will be a certain minimum proportion of indirect expenses for supervision, lighting, clerical work, passage of materials from process to process, repairing, etc., which cannot be exceeded in any similar factory without a less efficient production resulting. . . . It is of great importance to know the precise expense of every process, as well as of the wear and tear of machinery that is due to it."

Robert Torrens in 1834, and Nassau William Senior in 1862, both English economists, commented upon the relationship of production to fixed costs and the possibilities of increasing production without corresponding increases in outlay. The latter's comment that fixed capital "makes long hours of work desirable" and that with the increased use of machinery "the motives to long hours of work will become greater" was used by Karl Marx in *Das Kapital* (1867) as an argument against the private industrial system.

The Railroads and Fixed Costs

John Maurice Clark in his *Economics of Overhead Costs* (1923) says that the maturity of the railroad which opened up the markets of the world and thus made possible the full development of mechanical production was the factor which really brought the subject of overhead costs into prominence with economists. "When railroads were new, their rates were commonly uniform or nearly so, based on weight and distance, and were uniformly high. Soon it was discovered that additional traffic could be carried at little or no additional cost and that reduced rates, if confined to classes of traffic not already moving, would increase the net earnings of the company. Thus classification was born and the foundations were laid for cheaper railroad carriage than would ever have been possible without discrimination. . . . Under pressure of contending interests with the need of justifying practices against attack, the theory underlying discrimination became vocal and explicit, and the world learned that railroads were different from other industries because such a large part of their costs were constant or independent of traffic.

"Thus the world of economic thought was made aware of a fact which is older than railroads, older than economic science, and, far

from being a peculiarity of one business or of a group of highly capitalistic businesses, is universal. . . . So far as railroads were concerned, the chief use made of the notion of overhead costs was to justify discrimination as a general practice, on the ground that added traffic was not responsible for those costs which did not increase as traffic increased, and that in any case it was impossible to determine the proper share of costs traceable to one shipment or one unit of business."

An English Viewpoint—1904

It may be presumed that during this period of industrial development, cost accountants accompanied the economists in their interest in the perplexing behavior of overhead and concerned themselves seriously with ways and means of explaining its behavior to management. Only by such presumption have I been able to explain the thorough treatise on the subject which appeared in 1904 in the *Encyclopedia of Accounting* edited by George Lisle, C. A. and Fellow of the Faculty of Actuaries.

The author of the section of the Encyclopedia devoted to "Oncost," John Mann, Jr., Chartered Accountant, introduces his subject by reference to its economic aspect:

"The economic importance of the subject may be first noted, and especially the light which its study throws upon the Ricardian teaching that price generally varies with cost of production. It becomes clear that owing to the increase of machinery and the intensity of Trust and Tariff—fostered competition—a very careful definition or analysis of "cost of production" is required if this doctrine is to remain anything like universally true, i.e., the cost of production that fixed the price must be not prime cost of labor and materials only, but a full schedule of costs including every item of oncost or indirect expenses.

"The enormous increase in the amount of capital permanently invested in manufacturing industries—"fixed capital" as it is called—correspondingly increases the fixed charges as an element of cost. Further, as machinery supplants labor a change takes place in the analysis of costs, the proportion of fixed charges, oncost and expenses grows, and the proportion of wages to total cost diminishes. Men may be dismissed, hands reduced in times of depression, but machines may not; if they stand idle their attendant

charges for site, interest, and depreciation still run on. The reducible and controllable factors therefore tend to decrease, the fixed and irreducible factors to increase. The more machinery a manufacturer introduces, the more he is at the mercy of the market, up to the point of sacrificing all oncost. Hence, occasions arise where it is the lesser evil to keep machines at work producing at some loss rather than suspend work and so sustain a greater loss. In other words, it may be expedient to sell at a price which yields enough to pay for wages and material with something left over in addition, however small, towards oncost—let the contributions towards oncost be ever so little—it is better than no contribution at all. In this circumstance the price does not vary with the cost. . . . It is easy to sell under cost. If it is done in full knowledge and as a part of a set policy of extension, it may be defensible; if it is done through ignorance or carelessness, it is inexcusable."

An Introduction to Modern Developments

In connection with "Normal Expense Rates" after discusing the variability of ratios between production and expenses at different production levels, Mr. Mann states: "The only sound conclusion is that such fluctuations in expense ratios must be eliminated in recording ascertained costs and also in preparing estimates of future cost."

The author then goes into detail to outline the manner in which expenses should be distributed or allocated departmentally so that basic information is available for control and for the determination of the rates (per machine hour, man hour, labor dollar, and so on) to be used as normal rates in calculating the cost of production. Interestingly enough, interest on investment is included as an element of cost.

The next step in this rather remarkable article, considering its date (1904), is the development of what today we know as the flexible budget. The expenses for a productive department "ready to go," so as to speak, are developed and then also the expenses for three different levels of productive activity so that there is produced an index of the fixed and variable components, illustrative of the behavior of oncost under the circumstances existing in the plant used as an example.

Finally the author introduces the now well-known "cross-over" or "break-even point" chart, reflecting thereon the conditions de-

veloped in the flexible budget mentioned above and suggesting that valuable results will be obtained by the manufacturer if he studies his oncost problems and his business generally in the light of the information provided or possible of provision by such media.

I wonder if, since the time of that treatise, our thinking on matters pertaining to the distribution of manufacturing expenses or oncost has resulted in more than confirmation of the general soundness of the approach to the subject then recommended, and achieving through repetition and further analysis a more widespread understanding and acceptance of the principles then outlined. Perhaps that is enough for thirty-six years of effort not by any means limited to this phase of cost accounting alone.

Present Acceptance of These Principles

As to the extent of present acceptance of those major principles, it may be presumed that you are all familiar with the results of the N. A. C. A.'s research study of "Practice in Applying Overhead and Calculating Normal Capacity," in the *Bulletin* for April, 1938 which summarizes the burden practices of over 200 companies very interestingly. My particular interest was in comparing certain of the results of this study, not confined to a particular industry, with a survey recently conducted in respect of one industry in which a member of my organization participated.

One point stood out among others. The N. A. C. A. survey indicated that 48 companies, or 22 per cent of the total, use a single overhead rate for the entire plant, although a substantial proportion of the companies were of considerable size and were engaged in the manufacture of diversified products. This condition was even more accentuated in the results of the survey of the single industry whose products are also diversified. This survey indicated that 32 companies, or 51 per cent of the 63 companies who reported, use a single burden rate for the plant as a whole. If, too, as is generally observed in similar cases where all the attendant circumstances are known, those companies using the overall burden rate have no statistical facts of consequence relating to burden, there is an indication of the education work on the subject still to be done. Membership directors of N. A. C. A. may view this situation with interest.

A Case Review

The company whose distribution of manufacturing expenses it is now proposed to review is a company of medium size with an annual volume since 1933 ranging from $750,000 to approximately $1,000,000. The company develops and manufactures, from relatively inexpensive raw materials, products both for use in the manufacture of other products and also for ultimate direct distribution to the consumer, although its own distribution is through large outlets. Certain of its products are competitive with products of like utility but containing more expensive raw materials; certain others of its products must be produced to sell in definite price fields. Intimate knowledge and strict control of costs is important. Differential costs are extremely important. The company believes that possession of such knowledge as it has, accounts in no small degree for the fact that only in one year during the recent depression did it sustain a net loss and that of such small proportions that working capital was scarcely affected.

A large part of the company's raw materials are of foreign origin and partly for that reason substantial inventories are maintained. The costs of storage and handling are segregated and included in product costs on a per pound basis.

The company distributes its expenses of manufacturing and related activities primarily to ten direct productive departments, to a materials handling department and two other service departments. For cost purposes the expenses of the service departments, except materials handling, are redistributed to the productive departments.

Generally speaking, the machines in each department are fairly uniform in terms of investment, power demands and other related expenses. The effective wage rates of operators within a department do not differ to any important degree. It appears, therefore, that the use of the productive departments as cost centers and of direct labor value as a basis for application of departmental costs to product will result in practical accuracy for cost purposes. The company's productive departments are not now balanced in their productive output for a given period of operation and balance is achieved by varying the relative periods of operation of the departments. As will be seen later this situation is reflected in the cost accounting procedure.

EXHIBIT 1

Departmental Budget—Annual Basis

Department 3

Practical Capacity = 100% Normal Utilization 66⅔%

Sub Acct. No.	Account	Temporary Shutdown		33⅓%		50%		66⅔%		83⅓%		100%	
		No. Men	*Amount*	*No. Men*	*Amount*	*No. Men*	*Amount*	*No. Men*	*Amount*	*No. Men*	*Amount*	*No. Men*	*Amount*
	Direct Labor			8	$11,200	12	$16,800	16	$22,400	20	$28,000	24	$33,600
	Expenses:												
111	Group 1 — Foremen	..	$	1	$ 1,800	2	$ 3,600	2	$3,600	3	$ 5,400	3	$ 5,400
112	Group 1 — Helpers	..	....	4	4,000	6	6,000	8	8,000	10	10,000	12	12,000
117	Group 1 — Supplies	..	....	..	3,200	..	4,800	..	6,400	..	8,000	..	9,600
122	Group 1 — Social Security	..	....	..	680	..	1,056	..	1,360	..	1,736	..	2,112
126	Group 1 — Work. Comp.	..	....	..	85	..	132	..	170	..	217	..	264
130	Group 1 — Repairs—M. & E.	..	500	..	2,500	..	3,500	..	4,500	..	5,500	..	6,500
	Group 1	..	$ 500	..	$12,265	..	$19,088	..	$24,030	..	$30,853	..	$35,876
133	Group 2 — Repairs—Buildings	..	$ 500	..	$ 700	..	$ 800	..	$ 900	..	$ 1,000	..	$ 1,100
141	Group 2 — Heat	..	600	..	1,000	..	1,200	..	1,400	..	1,600	..	1,800
142	Group 2 — Light	..	50	..	350	..	500	..	650	..	800	..	950
143	Group 2 — Power	..	500	..	2,100	..	2,900	..	3,700	..	4,500	..	5,300
151	Group 2 — Taxes	..	1,200	..	1,200	..	1,200	..	1,200	..	1,200	..	1,200
152	Group 2 — Insurance	..	1,500	..	1,500	..	1,500	..	1,500	..	1,500	..	1,500
161	Group 2 — Depreciation—M. & E.	..	5,400	..	5,400	..	5,400	..	5,400	..	5,400	..	5,400
164	Group 2 — " —Buildings	..	900	..	900	..	900	..	900	..	900	..	900
171	Group 2 — Experimental	..	5,000	..	7,000	..	8,000	..	9,000	..	10,000	..	11,000
181	Group 2 — General Factory	..	3,000	..	4,500	..	5,250	..	6,000	..	6,750	..	7,500
	Group 2	..	$18,650	..	$24,650	..	$27,650	..	$30,650	..	$33,650	..	$36,650
	Total Expenses	..	$19,150	..	$36,915	..	$46,738	..	$54,680	..	$64,503	..	$72,526
		"Fixed" Expense $370.00 per wk. $1,596.00 per mo.		V = 160% × D.L. F = 170% × D.L.				V = 160% × D.L. F = 85% × D.L.				V = 160% × D.L. F = 57% × D.L.	

The Flexible Budget

A very important device in the company's scheme of expense distribution is the departmental flexible budget exemplified in Exhibit 1. (For obvious reasons all figures shown on that sheet are fictitious.) In the preparation of the departmental budgets the company's chief accountant works in co-operation with the factory superintendent and one of the assistant superintendents who has immediate responsibility for matters pertaining to the budget and control of expenses. A budget for each productive department and service department is prepared in respect of the expense requirements at five different levels of activity. The budgets for direct labor at each activity level are related to the practical capacity of the respective department. (Practical capacity, defined in more detail later, makes certain allowances for sickness, breakdowns and other failures in comparison with theoretical capacity.)

The next step is to determine the indirect labor, such as foremen and helpers necessary for the departmental operation. Foremen are those in charge of a productive department. In this company's case they are paid on a weekly basis and one foreman is required for each department for each shift operated. If temporarily a shift or a department is not operating, the foremen are assigned to other necessary work around the plant. Helpers, whose work consists of moving materials, assisting on machines and similar duties, are paid on an hourly basis and generally are required in proportion to departmental activity, as indicated by the direct labor employed. In the case of the particular department which we are using as an example in Exhibit 1, three men of the eight helpers provided for at the 66⅔ per cent level are required in the replacement of a perishable "supply" used on the machines. As Mr. A. Martin of the General Electric Company points out in a recent N. A. C. A. *Bulletin*, "Straightline budgetary control assumes that labor is infinitely divisible, which is not true. It is obvious, then, that the greater number of units of labor (people) involved, the more nearly the straight line approximates actual conditions, and, conversely, the smaller the number of units of labor, the less nearly the straight line approximates actual conditions. It is reasonable, however, to assume that a straight line does represent the variation in actual requirements for a particular function." Obviously, in the case we are reviewing, fifteen direct labor employees would

in the indicated proportion require seven and one-half helpers, which is difficult of exact attainment unless it is possible to share the employees' time with another department.

Supplies in this case consist principally of belting, lubricating greases and one relatively perishable expense item on the machines in this department, as referred to previously.

Expenses connected with social security taxes and workmen's compensation insurance are, of course, proportionate to the wages or number of employees in the department.

Repairs to Machinery and Equipment reflect the charges by the mechanical department for maintaining the equipment and machinery in Department 3. Each productive department of the plant is charged regularly with a proportion of the fixed charges of the mechanical department and, in addition, is charged with the actual cost of repair labor and materials utilized in its behalf. In this case the company builds a considerable portion of its own equipment and experiments in this field also, so that with such work the size of the mechanical force can be fairly well stabilized.

The provisions of the budget to this point represent items of expense which are identified as Group 1, and they represent direct charges to the department and broadly the expenses over which the factory manager can exercise control. As will be seen later, the actual manufacturing expenses of the department are distributed so as to coincide with this budget setup.

Group 2 Expenses

Group 2 in the budget comprises those items of expense over which the factory manager can exercise relatively little if any control. The first item in this group, which is repairs to buildings, represents first a departmental proration on the basis of occupied area, the fixed charges of the mechanical department applicable to general building maintenance, and also a provision for the charges of this department for work applicable to the department.

Certain processes of the company require industrial steam and this expense, as well as the maintenance of proper working room temperature, are combined and provided for under the item of heat. Fixed charges connected with the operation of the boiler department are prorated to each productive department in accordance with the normal needs of each, as determined by occasional check

with meters. The variable expenses are distributed according to the weighted relative activity of each productive department. Light and power are purchased and are distributed to departments on the basis of weighted candle power and horse power, respectively.

The items of taxes, insurance, depreciation of machinery and equipment and depreciation of buildings are prorated amounts applying to productive and service departments on the basis of floor area for taxes, insurance and depreciation applying to buildings, and on the basis of machinery and equipment valuation for insurance and depreciation applying to machinery and equipment.

As previously stated, the company builds a considerable portion of its machinery and equipment and is constantly experimenting with new products. Department 3, used as an example in this review of manufacturing expense distribution procedure, is one of the departments in which a substantial proportion of the specially designed machinery and equipment is utilized; it is also one of the departments through which all of the company's products must pass. The company's appropriations for experimental work, both in connection with equipment and products, continue whatever the production level, but are increased generally in accordance with the money available which, in turn, is generally related to productive activity. Hence in the departmental budget, the item of experimental expenses.

The item, general factory expense, comprises (1) an allocated proportion of the salaries of officers in the company whose time is devoted almost exclusively to manufacturing and manufacturing processes, (2) the salaries of the factory superintendent, the assistant superintendents, and factory office employees, and (3) certain general expenses not otherwise lending themselves to departmental allocation. The basis of allocation to productive departments is the cost of direct labor. It is interesting to note, in connection with the mention of officers' salaries, that all officers of the company draw nominal salaries, the major portion of their normal compensation being related definitely to the company's earnings.

As a result of all this distribution or allocation there has been produced a series of departmental budgets with the service departments, except one (materials handling) redistributed to productive departments. In each productive department, budgets for five different levels of productive activity have been developed and also

the budget for "standby charges" or conditions of temporary non-operation, which may be termed for practical purposes, "fixed charges." It is recognized, of course, that in the emergency of a major depression certain of these charges would be eliminated, but ordinarily they do not vary with production. The budgets for each level of productive activity, excluding what we may accept as fixed charges, should vary approximately with the direct labor in each department. This is found to be so in our illustrative budget for Department 3. It is found, too, that the degree of variability is 160 per cent of the direct labor cost and, of course, that is the case for all productive levels indicated. The rate of the fixed charges in comparison with the direct labor varies with each activity level and one of these levels is to be selected as that at which the "normal" burden rate or manufacturing expense rate of the department is to be fixed.

Normal Capacity

Our case company arrives at the determination of normal capacity or normal utilization as follows. Theoretical capacity for each department is first determined by adding all the direct labor hours necessary for three eight-hour shifts, five days per week, and fifty-two weeks in the year, except certain holidays specified in the contract with the labor unions. Practical capacity is determined by making allowance for sickness, breakdowns and the fact that except by operating Saturday and Sunday at overtime rates, three-shift operation is the "ceiling." It has been mentioned previously that because of the nature of products which are now manufactured the productive output of different departments in any given period varies considerably and balance is achieved by varying the relative number of hours in the departments. The department of least per hour capacity is, of course, operated the most hours each day or week, (approximating three shifts a day) and other departments are operated a sufficient number of hours each day or week to maintain a balance in productive output.

This situation has obtained approximately two years and for that period has been considered as a normal condition. It is reflected in the basis for burden rates by adjusting the practical capacity hours in each department to the point of balance. As exemplified in Exhibit 1, which we have been reviewing, the normal utilization or

normal capacity of that department is 66⅔ per cent in relation to practical capacity of 100 per cent. At that level of operation the expenses of the department which we may accept as fixed expenses represents 85 per cent of the direct labor of the department and, with the variable expense ratio of 160 per cent, represent a burden rate in relation to the value of direct labor of 245 per cent. Thus it may be seen that in respect of Department 3, normal utilization or normal capacity is determined first by relating its capacity to all other departments and then by estimating the probable commercial needs of customers.

EXHIBIT 2

FACTORY BURDEN RATES

Dept.	*Variable* %—D. L. lb.—Mat.	*Fixed* Week	Normal Basis	*Total* Normal Basis
1	141%	$ 52.00	49%	190%
2	79%	40.00	31%	110%
3	160%	370.00	85%	245%
4	102%	154.00	38%	140%
5	96%	46.00	44%	140%
6	86%	30.00	14%	100%
6a	99%	135.00	21%	120%
7	101%	54.00	59%	160%
8	82%	20.00	18%	100%
9	269%	40.00	171%	440%
10	.0035 lb.	85.00	.0007 lb.	.0042 lb.
—	—	—	—	—
..	....	$1,026.00	....	....

It is assumed that when the company is operating at the normal utilization level all expenses will be absorbed. Idle plant expenses are not segregated in the accounts although it is apparent that such could be done very easily. The burden rates of all departments of the plant not redistributed are shown in Exhibit 2, according to their fixed and variable components and total as well.

The Budget Report

Exhibit 3 is a budget report which is prepared monthly for the factory executives in respect of each department's performance, in comparison with the respective budgets for the current month and for the year to date. Strictly speaking, I suppose this report is associated with the control of, and not the distribution of, manufacturing expenses, but one reason for the distribution of manufac-

BUDGET REPORT - MONTHLY

DEPARTMENT 3

Month and 3 Months Period Ending March 31, 1938

	Account	F	V	This Month: Actual	This Month: Budget	This Month: Actual U or (O)	Year to Date: Actual	Year to Date: Budget	Year to Date: Actual U or (O)	Comments
	Direct Labor	$	%	$2,156.70	$1,850.00	$(306.70)	$4,673.32	$4,510.00	$(163.32)	Week - 348.40 due to O'Brien M'f'g Co.
Group 1	Foremen		16	$ 300.00	$ 296.00	$(4.00)	$ 762.47	$ 722.00	$(40.47)	weekly rate O'Brien M'f'g Co.
	Helpers		36	749.36	666.00	(83.36)	1,703.11	1,624.00	(79.11)	"
	Supplies		29	501.29	537.00	35.71	1,370.30	1,308.00	(62.30)	
	S.S. & Work Com		6	130.77	111.00	(19.77)	276.25	270.00	(6.25)	
	Repairs - M & E	42.00	18	298.71	375.00	76.29	1,049.63	938.00	(111.63)	See gen. report
	Group 1	$ 42.00	105%	$1,980.13	$1,985.00	$ 4.87	$5,161.76	$4,862.00	$(299.76)	
Group 2	Repairs - Building	$ 42.00	2	$ 216.14	$ 79.00	$(137.14)	$ 279.30	$ 216.00	$(63.30)	O.K. - seasonal
	Mt.,Lt.&Pr.	96.00	22	475.17	503.00	27.83	1,502.53	1,280.00	(222.53)	"
	Taxes&Ins.	225.00	-	225.00	225.00	-	675.00	675.00	-	"
	Depr.	525.00	-	525.00	525.00	-	1,575.00	1,575.00	-	"
	Experimental	416.00	18	429.32	749.00	319.68	1,844.19	2,060.00	215.81	unusual
	General Factory	250.00	13	538.00	490.00	(48.00)	1,170.39	1,336.00	165.61	
	Group 2	$ 1,554.00	55	$2,408.63	$2,571.00	$ 162.37	$7,046.41	$7,142.00	$ 95.59	
		$ 1,596.00	160%	$4,388.76	$4,556.00	$ 167.24	$12,208.17	$12,004.00	$(204.17)	4/14/38 OKG

Burden Absorbed ($1,850.00 x 245%)	$4,532.50	Burden Expense	$12,208.17
	4,388.76	Burden Absorbed ($4,510.00 x 245%)	11,049.50
Burden Overabsorbed	$ 143.74	Burden Underabsorbed	$ 1,158.67
Volume Variance	23.50	Volume Variance	954.50
Expenditure Variance	167.24	Expenditure	204.17
	$ 143.74		$ 1,158.67

EXHIBIT 3

turing expenses is to facilitate control and therefore it may not be out of order to review this report briefly. The amount of direct labor, according to the budget as shown on this report, is the total of the standard direct labor allowances for all production passing through the department during the periods under review. The amount of actual direct labor is taken from the analysis of payroll. The direct labor amounts and the amounts for labor of foremen and helpers are also reported to the factory executives each week shortly after the payroll has been prepared. The other items of actual expense shown on the budget report are taken from the company's subsidiary record in which manufacturing expenses are distributed departmentally.

Under columnar headings F and V of Exhibit 3 are shown the factors from which the budgets for the periods are developed. The amounts shown under columnar heading F are the monthly charges for each of the fixed components of the expenses of the department, while under the columnar heading V are the variable components of the expenses expressed as percentages of standard direct labor. In the case of each expense item, the budgeted amount consists of the fixed component, if any, plus the variable component percentage of standard direct labor. Thus, in the case of repairs to machinery and equipment for the month, the budgeted amount is $375, which consists of $42 plus 18 per cent of $1,850, or $333.

Reconciliation of actual expenses and burden absorbed into the costs of product during the month and the period is indicated at the bottom of the report. Burden absorbed for the month is the product of the standard direct labor, $1,850, and the burden rate of 245 per cent, or $4,532.50. The actual burden expense for the month amounts to $4,388.76, as shown by the report, so that the burden is overabsorbed for the month in the amount of $143.74. This amount is the net result of the difference between expenditure variance ($167.24) and volume variance ($23.50). Expenditure variance ($167.24) is due to variance in efficiency and variance merely in the incidence of expenditures, each of which two latter variances are commented upon by the factory management in the column provided for comments at the extreme right of the report.

The budget reports and the performance of the plant in relation to the budget are the immediate responsibility of one of the assistant superintendents, and all proposed expenditures affecting the plant are reviewed by him.

The Cost Sheet

Exhibit 4 represents the cost sheet used by the company. This form provides clearly and concisely for all the information relating to the standard cost of the product. In connection with our subject, "The Distribution of Manufacturing Expenses," our only interest in this form is the manner in which such expenses are indicated thereon. Provision is made for the individual record of the variable and fixed expenses of the departments involved in production

STANDARD COST SHEET

Date 12/1/38 Revised ✓ Style 304 6 TH

Fin. Yds. 50,000 Fin. Width 114" Fin. Weight 24 oz. Est'd Shrinkage 12

Std. Cost per Unit			Pounds	Unit Price	Extension	TOTALS
		Sisal Gunny Bagging Hair Burlap				
		Total Lbs.	265.230			7,956.90
		Direct Supplies (Detail on other side)				1,231.60
	✓	TOTAL COST OF MATERIALS			XXXXXXXXXX	9,188.50
		DIRECT LABOR AND MANUFACTURING EXPENSE:				

Department	Direct Labor Cost	Hours	Provision for Manufacturing Expense Variable Rate	Variable Amount	Fixed Rate	Fixed Amount
1	541.63		141%	763.70	49%	265.40
2	214.67		79%	169.59	31%	66.55
3	1,539.25		160%	2,462.80	85%	1,308.36
4	827.48		102%	844.02	38%	314.44
5	673.33		96%	646.40	44%	296.27
6a	417.89		99%	413.71	21%	87.76
10			per lb.	923.30	per lb.	185.66
Totals	4,214.25		XXXXX	6,228.52		2,524.44

	TOTAL COST OF DIRECT LABOR		4,214.25
	TOTAL PROVISION FOR MANUFACTURING EXPENSES	XXXXXXXXX	XXXXXXXX
✓	Variable Expenses	6,228.52	
✓	Fixed expenses	2,524.44	8,752.96
✓	TOTAL COST OF MANUFACTURING		22,155.71
	SELLING AND GENERAL EXPENSES:	XXXXX.XXXX	XXXXXXXX
	Variable expenses (1-2-3-4)		
	Fixed Expenses (1-2-3-4)		
	TOTAL COST DELIVERED		
	PROFIT MARGIN:		XXXXXXXX
	SELLING PRICE (STANDARD)		

EXHIBIT 4

and the summary of the total of each component in arriving at the total "cost of manufacturing." Considering the nature of the company's business and the keen competition in connection with several of its products, a knowledge of its differential costs is of great importance. This is available, of course, by the elimination of fixed expenses from its total costs.

It is believed that the procedures which this company employs in its distribution of manufacturing expenses have given it a knowl-

edge of cause and effect, or what makes it "tick," in so far as general classification of expenses is concerned at any rate, that is not exceeded by any other company. It is clear, in the light of what was mentioned in the historical introduction, that there is nothing new in the principles of manufacturing expense distribution as applied by this company—that they are the principles which were recognized at least as early as 1904. Having withstood the sure test of practical use and mature thought, they have gradually received general acceptance by the most successful companies as necessary to knowledge of manufacturing expense behavior.

RESEARCH, TOOL AND ENGINEERING COSTS

By Herman A. Papenfoth, Chief Accountant,
The Trumbull Electric Mfg. Co., Plainville, Conn.

TOOL and engineering costs are so closely related to research costs in general, that one cannot very well be considered without the other. There is a wide variation in the treatment of these costs under the same and dissimilar conditions, but the problem, after all, concerning any expenditure is whether it shall be capitalized or charged currently to expense. If capitalized or included under deferred charges, the question then involved is merely how this capitalized expenditure is to be charged to profit and loss or liquidated through costs, and the period during which such absorption in costs is to be made. This sounds simple enough but there is probably no group of expenditures where the practice as to the disposition in the accounts varies more than in research, tool and engineering costs.

Definitions and Background

Webster defines research as "careful or critical inquiry or examination in seeking facts or principles, a diligent investigation in order to ascertain something."

From an accounting viewpoint, in its broader aspects, research costs include expenditures for the development of new products, improvement of present products, development of new manufacturing methods, development of new and special machinery, cost of purchased patents, royalty on the manufacture of patented products, patent litigation expense, testing products, field service to cover supplementary development and to remedy complaints due to design of products after their delivery. Specifically, expenditures made embracing these purposes include the compensation of engineers and draftsmen, indirect expense of engineering and drafting departments, experimental labor and indirect expense of the experimental department, and material and expense incurred in manufacturing departments in making, testing and inspecting initial products while in process of development. In general, this gives us a descriptive background for the consideration of research and engineering costs.

Under the broadest interpretation of tool costs, tools may mean anything from an axe or a hammer, to large and complicated dies and massive equipment used in forming the body of a modern automobile. However, for the purpose of restricting our consideration of tool costs, we will include expenditures for patterns, molds, jigs, punches, dies and other small tools, attachments and fixtures designed for specific products under this category of tool costs. So much for the general background and definition of tool costs.

Accumulation of Research and Tool Costs

Before considering the actual disposition of these costs, we are naturally interested in the methods provided for the accumulation of such costs. It is assumed that any well run system for controlling these costs provides for proper authorization of such expenditures by management—a committee or certain designated individuals in the organization. Where the practice does not provide for issuance of specific authorizations, expenditures presumably are charged on a departmental basis under specific accounts. However, the use of an individual authorization and the subsequent accumulation of material and labor costs under this authorization or order number provides as a matter of routine the basis for an adequate subdivision and classification of these expenditures. Expenditures for material, engineering salaries or clerical salaries applicable to research and development authorizations may be charged under any desired classification and present no problem provided that such salaries do not in any way require the application of overhead expense thereto. On the other hand, in operating the experimental department and in any regularly established tool room where supervision, equipment and depreciation thereon, maintenance, use of power and other incidental expenses are involved, we have the problem of overhead application.

Three Types of Charges

Tool room or experimental department overhead, as we visualize it, includes three divisions of expense charges:

1. Direct charges or assessments such as supervision, clerical labor, handling and trucking, machine and equipment maintenance and the usual run of direct charges.
2. Fixed charges, including taxes, insurance, depreciation and cost of floor space occupied, all of which may be assessed or allocated on a fairly definite basis.

3. Prorated general expenses which would include a share of general factory supervision, general clerical labor including cost clerks, purchasing department, general maintenance, depreciation and other factory operating or indirect expenses which cannot be directly charged to any regular manufacturing department.

In so far as may be possible, such general factory expenses are allocated to the departments on some logical basis and any remaining amount may be more or less arbitrarily allocated according to the relative amount of direct labor or direct labor hours included under these departments. Objection is raised frequently to the allocation of any general factory expenses to the tool room or experimental department since the resulting accumulated costs with overheads thus applied may bring tool costs above competitors prices at which similar tools may be purchased from outside sources. Another objection is that it tends to inflate tool costs if capitalized, or in any case inflates tool costs on whatever basis they may be liquidated into expenses. To offset this point of view, the exclusion of any share of general expense in the tool room or experimental room overheads might very well be considered arbitrary and discriminating in placing the load on production departments only.

In discussing tool costs, we are not alone concerned with the initial expenditure for making tools but also their subsequent maintenance. The cost of maintaining tools in the tool room or a subdivision thereof may be accumulated by job orders if desirable, or at least charged to manufacturing departments making use of the tools. It seems only reasonable, when charging manufacturing departments for maintenance work performed by the tool room, that such charges should absorb and include as a part of this maintenance cost, the regular tool room overhead.

The data for the accumulation of these costs is derived from the usual sources of information such as vendors' invoices, material requisitions, factory time tickets, time records of engineers and draftsmen, or from other records maintained. Subsidiary ledgers may be necessary depending entirely on the amount of money involved and the desired classification of such expenditures.

Capital or Revenue Expenditure

In the classification and distribution of research and tool costs there is definitely a difference of opinion as to the best practice to follow with respect to the following:

1. When should expenditures be capitalized and what limit, if any, should be placed upon the amount to be capitalized?
2. If charged to expense, under what expense subdivision should such expenditures be included?
3. With respect to unsuccessful development projects, what disposition should be made of the amount capitalized and not absorbed against production or sales?

An argument for capitalization is that it permits the proper allocation and liquidation of these expenditures by the classes of product to which they apply. As to the point that capitalization is not conservative, a full reserve may be set up against the amount thus capitalized. Our practice is to set up development and research expense as a deferred asset, liquidating this expense over cost of goods sold by classes of product. At all times we have a 100 per cent reserve against any unliquidated development expense, except that at the end of each year such unliquidated expense is written off. It is restored at the beginning of the year, with its full reserve, and carried along from year to year on this basis.

Research Costs

Development or research expense is of four principal types and the following disposition is suggested under the conditions illustrated.

1. Development work on manufacturing methods, if considered under the category of research costs, may be charged directly to manufacturing expense since in most cases this is an ordinary expenditure in the course of manufacturing and in the improvement of manufacturing methods. However, some unusual conditions might exist where one would be justified in setting up some such major expenditure under deferred charges to be liquidated over a reasonable period of time.
2. Development work on new products is quite generally charged to deferred expense and liquidated over production, through cost of sales, or directly to profit and loss as an income deduction. Obviously, as the treatment varies with respect to this expense even within the same industry, cost comparisons between manufacturers would tell little or nothing unless the basis of costing were clearly understood. Another point for consideration with respect

to the manner in which this expenditure is liquidated, is the effect on inventory valuation. Obviously, if charged to factory burden when liquidated, the valuation of inventory on the basis of manufacturing costs would be inflated by the relative amount of development and research expense included therein.

3. Development work on products already manufactured covering minor changes and improvements would be charged generally to manufacturing expense.
4. Pure research, assuming that such research is not directly associated with regular manufacturing processes or products, may be charged to administrative expense or directly to profit and loss as an income deduction.

Accumulation by Product Classes

We classify our development expenses under two general heads: (1) class of expenditure (i.e., drafting labor, experimental labor, royalty and legal expense, patent depreciation, etc.), and (2) class of product, of which there are approximately twenty-five subdivisions. In a report prepared monthly, (Exhibit 1), expense thus accumulated by class of product to which it applies, is shown for the current month and the current year to date. Liquidations of development expense by class of product are at specified liquidation rates applied to and added to the factory cost of sales billed by classes. The details of liquidation by product classes is shown on the back of this report. In establishing these liquidation rates there are a number of conditions that govern, such as the amount expended for development, anticipated sales and what the traffic will bear. The success of the development project can only be determined as time passes. In any case, by accumulating development expenditures by product classification and liquidating this expense as merchandise is sold, we are able to determine the degree of success of individual development projects. Even though it may be true that the strong will carry the weak, this situation is at least disclosed and accordingly kept in hand better by having this information available.

In discussing recently with one successful manufacturer the policy followed by his company in accounting for development expenditures, I learned that this manufacturer charged all such

APPLIED APPARATUS EXPENSE

PLAINVILLE & LUDLOW PLANTS	Month of ..... 194..			
SUMMARY	This Month ..... Weeks	Last Month ..... Weeks	Year to Date This Year ..... Weeks	Year to Date Last Year ..... Weeks
A. A. E. Charges				
M-1 Tool Expense				
M-2 Patent Deprec.				
M-3 Drafting				
M-4 Engineering				
M-5 Royalty and Legal Expense				
M-6 Miscellaneous Expense				
M-7 Field Service				
Total Charges				
A. A. E. Liquidations				
Unliquidated Balance For Period (Overliquidated in Red)				

Factory Cost of Sales and Ratios				
Factory Cost of Sales (Not inc. A.A.E.)				
Ratio to Factory Cost of Sales				
Total A.A.E. Charges				
Total A.A.E. Liquidations				

Budget and Realization of Charges	This Month	Weeks	This Year	Weeks
	Budget	% Over or Under	Budget	% Over or Under
Budget of A. A. E. Charges				
M-1 Tool Expense				
M-2 Patent Deprec.				
M-3 Drafting				
M-4 Engineering				
M-5 Royalty and Legal Expense				
M-6 Miscellaneous Expense				
M-7 Field Service				
Total Budget				

EXHIBIT 1

expense currently into the factory overhead and that only one general factory overhead was used for the entire plant. The argument advanced for this policy was that a departmental subdivision of factory overhead and a classification or deferment of development expenditures, would in no way change decisions made by them based on available information under their system, and further that maintaining such elaborate records was costly and would be confusing to them. Their viewpoint was that management would not benefit by this added information. This illustrates that there are two contrary schools of thought as to what may be considered as adequate treatment in the disposition of research and engineering costs. However, from the standpoint of obtaining accurate costs, the classification and distribution of these costs by product classification is certainly a desirable refinement.

Reference might be made at this point to the policy followed in the disposition of development expenditures for tax purposes. It had been our consistent policy to include all such expenditures as current deductions for tax purposes. This corresponded with the write-off of any such unliquidated expense at the end of the year to the reserve account set up for that purpose. However, with the mounting government debt and mounting taxes, and regardless of any consistent practice followed, tax examiners have received their instructions to defer some of this expense when they could find some excuse for so doing. A large part of this expense represents necessary and ordinary expense of doing business and there is this argument in favor of charging currently to factory overhead all such development expenditures: By not setting up separate accounts for development expenditures as such, the amount of such expenditures and the period to which they apply, or might be applied, is not quite so obvious.

Tool Costs

At one time we included all tool costs as a part of development expense, but this policy has been changed and we now capitalize all tools, as previously defined, liquidating them through costs at an annual depreciation rate of 25 per cent. Our practice with respect to dies and tools is to classify them as uncataloged equipment (no physical inventory taken), keeping each year's expenditures separate and liquidating the full year's expenditures over

the depreciation period of four years. Individual job costs are accumulated for each die manufactured but in treating the annual investment in dies as uncataloged equipment, there are no adjustments made if individual dies should be discarded prior to the end of the four-year period. However, with our class of products this composite rate fits the conditions.

The disposition of tool costs for standard products, if included as a part of development expenditures, or if capitalized and charged to operations through depreciation, presents no great problem, but the disposition of tool costs for special products requires special consideration.

Naturally, it depends on trade practice within the industry whether tools manufactured for customers' special products can be charged to the customer at a profit or at anything above cost. In our case, we are not in the business of manufacturing tools although we are reasonably competitive in the making of them for our own use. Where the customer is involved, our experience has been that we are lucky to obtain the full cost of tools. When or as we make a profit on special tools thus charged, we have no trouble in finding a place in our accounts to reflect such profit. We make no attempt to liquidate commercial or administrative expense on tools thus sold.

Special Tools for Customers' Orders

Generally, where possible, we endeavor to charge special tools made for customers' orders to the first job lot of material manufactured and shipped. The cost of such tools as charged would be represented by the material used, direct labor in making, plus the regular liquidation of tool room overhead. In our case, since we are not in business to manufacture tools, we do not generally class this part of the transaction under sales. If, on the other hand, the manufacture of certain tools, templates, etc. represents a small part of the total cost of manufacturing the merchandise called for on the job, this would be included in the regular factory cost of the job and the total selling price received would be presumed to include the necessary allowance to liquidate the cost of tools.

The manufacturer who faces these conditions as an every-day proposition would find, no doubt, that a different treatment of these

special tools costs would be warranted. It might be found that a separate sales classification for tools in which the cost and a portion of the selling price is segregated, may be the answer. Under this treatment a lower rate of commercial overhead may be applied to such sales if the facts justify this procedure.

In the accumulation of special tool costs, there is no problem if the making of special tools is segregated in a separate department, in which case an overhead rate can be established on the basis of that department's operations. However, where there is only one tool room engaged in the making of tools for both standard and special products, with the customer paying part or all of the tool costs, we are faced with another situation.

Obviously, if the customer is to pay for the cost of special tools, the accumulated cost for the special merchandise manufactured therefrom should not absorb tool depreciation or maintenance charges, applicable to standard products under the various manufacturing departments, through which both special and standard products may pass in the course of their manufacture.

Use of Separate Overhead Rates

What we must then decide is how to separate the wheat from the chaff. If conditions make this separation possible, we have no problem; but if they don't, it would seem that the answer is that we can't make a clear-cut separation. An alternative in this case is the setting up of two separate overheads in the one tool department determined by an analysis of the overhead expense as accumulated. In making this analysis and in determining the normal overhead rate to be applied to special products where tool costs are absorbed by the customer, the regular depreciation and maintenance charges would be eliminated.

By way of illustration, we have a branch porcelain plant which manufactures electrical porcelain for the home plant and other porcelain accessories for direct sale to customers. Porcelain molds for the electrical porcelain used by the home plant are capitalized and included in the assets of the home plant, which is the practice generally followed for investment in porcelain molds or molds for plastics such as bakelite, cold molded material, etc. In the case cited, obviously the home plant should not be charged with depreciation and maintenance costs of molds used on products for

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JUNE						
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1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	N. A. C. A. Convention				27	28
29	30					

#3

N. A. C. A. BULLETIN

Vol. XXII, No. 9 January 1, 1941

N.A.C.A. LIBRARY

IN TWO SECTIONS

Section II

FORUM SECTION

This Bulletin is published semi-monthly by the
National Association of Cost Accountants,
385 Madison Avenue, New York City

To a news photographer,

"CHEESECAKE" means pictures of legs

Publicity men have long known that photographs of bathing-suited beauties make tourists and vacationists change long-laid plans. Such photographs are known to news photographers as "cheesecake."

To a business man,

"COMPTOMETER ECONOMY" means accurate figures faster with less eye and nerve strain

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ADDING - CALCULATING MACHINES

N. A. C. A. ACTIVITIES
AND THE MEN IN CHARGE

This is the third in a series of articles devoted to a description of the several departments through which N. A. C. A. activities are directed. Each month one of the directors in charge of a department describes the work of his department and its relation to the other activities which make up N. A. C. A. This section of the Bulletin has been instituted in order that members might become better acquainted with the way in which these departments operate and at the same time come to know better the directors in charge. This month Wyman Fiske gives you a well-rounded picture of the work of the Publications Department.

THE DEPARTMENT OF PUBLICATIONS

We are an Association, that is, a group that has combined for mutual service and co-operative effort. One of the obvious services which the local and national organizations can perform is to search out and make available to all, solutions of problems faced by all or large sections of our membership or interesting methods used to accomplish results. That is the essence of the publications activity. It is one of the devices (the chapter meetings are another) by which the experience of individual members, and of others active in industrial accounting, are shared by all members. To be efficient it obviously must be organized and operated from National Headquarters, for it must be able to reach all potential sources and then to distribute its findings to all members.

Publications forms the most direct contact of National Headquarters with the individual member. For members out of chapter territory it is the only regular service received. As such it is perhaps a more generally understood national activity than some which are indirect in the sense that they assist local chapter organizations toward efficient operation. Nevertheless, the successful operation of the publications department is a more complicated task than many of us appreciate.

In the first place, our publications program is many-sided. There is, first and foremost, the regular semi-monthly issue of technical bulletins. These are supplemented by separate sections of Chapter News Notes, Forum Discussions, and Digests of Industrial Accounting Literature. The annual Year Book is also prepared for publication by the Department. From time to time, there have been other special issues, such as the volume of papers on reports for executives and the special preprint of Mr. Russell's paper on Problems Raised by Government and War Orders.

To accomplish all this we depend not only upon the National Headquarters organization but upon sixty-seven local chapter directors of pub-

lications. These local directors are our contacts to search out and obtain papers on topics of interest to our membership. They know their territory industrially. They know where the problems are and who can best offer constructive solutions and suggestions for better methods. They assist in the preparation and editing of papers and transmit them to New York for possible inclusion in our publication program.

Nor should we forget the hundreds of individuals who serve their fellow members by giving the time and energy to make available to others their own experiences. Their efforts are voluntary and without reward other than the personal satisfaction of a job well done. Inevitably some papers must fail of publication, for our *Bulletin* can include only fifty or so papers a year. The authors of unpublished papers have nevertheless contributed much for they give us a wider selection from which to choose the most timely and significant for distribution to our members, and they help their own chapters towards a more all-round performance. To authors of papers we must add the authors of letters and comments appearing in the Forum section, a division of our activities which has an increasing importance.

In the New York office, the Research and Technical Service Department, under the able leadership of Dr. Marple, performs the difficult task of selection and preparation of papers for publication in the *Bulletin* and in the Year Books. Only those who have had a hand in the regular preparation of material for periodical publication can appreciate the problems faced by Dr. Marple and his assistants in their effort to maintain a constant flow of high quality material of interest to the maximum number of number of members at all times and to all members at close intervals. I believe their success is self-evident.

Currently almost 10,000 copies of our publications are being regularly printed and mailed. In other words, the experiences of authors are being multiplied and made available to almost 10,000 other members. Were our Association to do nothing else, it would be more than justified by this alone. It is a co-operative effort of the highest type.

WYMAN P. FISKE,
National Director in charge of Publications.

WYMAN P. FISKE

National Director in charge of Publications

PHOTOGRAPH BY BACHRACH

Almost from the beginning of his membership in N. A. C. A., Wyman Fiske's name has been associated with publications. Joining the Association in 1930, he was appointed chapter Director of Publications for the Boston Chapter later that year. He continued his interest in the publications activity while serving as Vice President of his Chapter in 1931-32 and as President in 1932-33. Elected to the National Board in 1937, his interest in this subject was soon recognized with the result that he is now serving his third term as National Director of this important activity. But Wyman has been as interested in participating as in directing. Several articles by him have been published in the *Bulletin*. Both in 1939, when he served as a member of the Technical Program Committee for the Atlantic City Convention, and last year, when he served as Chairman of the St. Louis Convention Technical Program Committee, the Year Books reflected the contribution made by him and other members of the Program Committee.

A graduate of Harvard College and the Harvard Graduate School of Business Administration, our Director in charge of Publications, except for a period devoted to acting as Office Manager of the Boston Office of the Amoskeag Mfg. Co., has been engaged in the teaching of accounting. Prior to his present affiliation with the Massachusetts Institute of Technology, he served for five years as Instructor of Accounting at the Harvard Graduate School. For the past two years, in addition to his teaching duties as Professor of Accounting, he has served as Director of the Sponsored Fellowship Program at M. I. T.

In addition to his other obvious qualifications as National Director in charge of Publications, Wyman Fiske is from Boston, the city which has provided the National Publications Director for seven of the last ten years. Members of N. A. C. A., appreciative of the high standing of our publications, know him as a worthy successor to the office formerly held by those other eminent Bostonians, Tom Sanders and Dick Fletcher.

OUR OPEN FORUM

This section of the Bulletin is available to all for the informal discussion of technical matters of interest to our members. Included here will be comments on articles in Section I, ideas and suggestions arising out of these articles, and other correspondence in which our members are likely to be interested. The ideas expressed will be those of the individual correspondents, and all shades of opinion will be welcomed to the extent that the ideas expressed are constructive and of general interest.

Income Taxes in Costs

Editor, N. A. C. A. Bulletin:

Mr. Byerly's letter in the October 1, 1940 *Bulletin* concerns a matter which was discussed exhaustively but inconclusively at the annual conference at Atlantic City in June, 1939.

At that conference the question was posed as to whether the Federal income tax was includible in cost, and the report on the discussion in the 1939 Year Book indicated that half of those present considered that it was.

In a report on accounting practice of manufacturing companies, in the *N. A. C. A. Bulletin* of October 1, 1938, only eleven of 647 companies reporting indicated that they included Federal income taxes in manufacturing costs on their financial statements. However, as Mr. Byerly points out, other treatment is required for statements for S. E. C. and other purposes, and the 1938 survey need not be taken as general practice in the determination of costs of products sold.

If we assume for discussion purposes that Federal income tax is a proper element of cost, there remains only the problem of a method of allocating the total tax expense to operations or products. The Atlantic City discussion indicated some knotty problems involved in such allocation, although of course difficulty per se is no valid reason for abandoning the problem. Mr. Byerly's suggestion with respect to unallowed depreciation suggests relating the allocation to differences between taxable income and book income.

Taxable income and book income seem to be drawing further apart with each revenue act and amendment to the Internal Revenue Code. Almost every corporate taxpayer of any size has an imposing list of items of income or deductions which are partly or wholly excluded from the computation of taxable income. In addition, the ultimate income tax rate is affected by many factors other than the existence of income, such factors including the total amount of income (the "penalty on bigness" in the Second Revenue Act of 1940).

As a result of these complexities, it appears to me that any attempt to assign portions of the tax expense to operations or products, dependent

upon the extent to which related items of income or expense affect *taxable* income, will lead to such complexities and arbitrary assumptions as to position of the items in the various tax rate brackets as to make the result unuseable for cost purposes.

Might not a solution be found in the theory that the income tax is a charge upon the net income of the taxpayer, determined by a formula contained in the taxing statute? This formula embodies many factors, but still is designed primarily to determine the amount of that income which is to be taken as a tax. The formula for the 1940 Federal income tax, for example, will be affected by the nature of income and expenses from manufacturing, investments and all other activities, the form of the taxpayer's organization, the amount of profits earned, the earnings of past years, the amount and nature of the capital invested, etc. Regardless of the elements of the taxing formula, or the changes in the law from year to year, the effect is to levy a tax on the net income of the taxpayer, which is the available fund for payment of the expense.

Perhaps this theory might be extended to consider that the tax is levied on gross income rather than net income, in accordance with the proposition that the Congress has power to levy an income tax on all income and that deductions are a matter of legislative grace. This would recognize the possibility of having a taxable income but no book income, as cited by Mr. Byerly.

The application of income tax expense to products or operations is a matter for study of specific cases. An interesting discussion of this problem will be found in the *N. A. C. A. Bulletin* of December 1, 1936, in an article by Mr. Arisman of Armstrong Cork Co.

L. Mills,
New York Chapter.

Supplies Inventories on the Balance Sheet

Editor, N. A. C. A. Bulletin:

Should inventories of supplies be considered as current assets? There seems to be a difference of opinion whether such items belong among current assets or deferred charges. Due to the use of prescribed accounting systems, public utilities are consistent in treatment of all classes of inventories as current assets. In looking over a sizable number of balance sheets (other than public utilities) in S. E. C. reports, I find a large majority include supplies among the current assets. Many of these balance sheets segregate the inventories into groups showing the amount of supplies separately. A few show such segregation in a balance sheet note. One balance sheet shows among Other Assets, "Parts for discontinued models." Several of the balance sheets show supplies among Deferred Charges or Prepaid Expenses, together with prepaid insurance, taxes, etc. The United States Steel Corporation balance sheet shows a separate non-current item, "Other Assets—Inventory of sundry operating parts, supplies,

etc." Pan-American Airways Corporation show their inventories directly following current assets.

We have been told, I believe, that current assets are those that will be converted into cash in a comparatively short time. Under this maxim, supplies that will not be converted into saleable merchandise would not be current assets. It follows that the nature of the supplies should determine whether or not same are of a current nature. Thus repair parts for plant assets seem definitely to be non-current; factory supplies might be current; and saleable scrap would be current. Since various and sundry items that will not be converted into cash within a year are often found among current assets, I suppose the inclusion of supplies in this category is likewise tolerated. My observation has been that the treatment of supplies inventory on the balance sheet is largely a matter of precedent for a given company. Once a resting place is established for certain items on the balance sheet, it becomes very difficult to dislodge the usual order. Wherever the supplies inventory is finally shown on the balance sheet, I believe that it should at least be set out as a separate item.

ROGER A. SEEBE,
New York Chapter.

Dallas Chapter Officers and Directors

Listed below are the Officers and Directors of the recently formed Dallas Chapter:

President—Roy Giddens, Texas Bitulithie Co., 111 Commerce St., P. O. Box 5297, Dallas, Tex.

Vice Presidents—Donald S. Grubbs, Oil Well Supply Co., P. O. Box 478, Dallas, Tex.; Louis G. James, Lone Star Gas Co., 1915 Wood St., Dallas, Tex.

Treasurer and Secretary—Cecil Baugh, Baptist Standard Publishing Co., 211 Burt Bldg., Dallas, Tex.

Directors

Employment—H. E. Hartfelder, Oak Farms, Ltd., 1114 N. Lancaster, Dallas, Tex.

Meetings—E. R. Boyd, C.P.A., Republic Bank Bldg., Dallas, Tex.

Member Attendance—H. A. Yeats, Southwest Wheel Co., Inc., 2500 Commerce, Dallas, Tex.

Membership—E. P. Green, Peat, Marwick, Mitchell & Co., 605 Santa Fe Bldg., Dallas, Tex.

Program—Stuart Arthur, Lybrand, Ross Bros. & Montgomery, First National Bank Bldg., Dallas, Tex.

Publications—David H. Stanley, Housing Authority, City of Dallas, Dallas, Tex.

Publicity—T. R. Murtha, Atlantic Refining Co., P. O. Box 2819, Dallas, Tex.

Employment

Man Available

Listed below is a short summary of the employment record of one of our members who is now available for employment. A complete file of men is maintained at Headquarters. Upon request, digest of the records of men available and qualified for the positions to be filled will be furnished employers.

No. 1475—COST ENGINEER and ACCOUNTANT seeks position with an Industrial Company. Thoroughly grounded and experienced in Production and Distribution Costs, Accounting, Budgets, Motion-Time Study and Method-Standardization, Incentives, Production Planning and Control, Office Procedure and Organization. Fifteen years' experience with manufacturers and consultants. Executive ability to obtain objectives. (A temporary position for installation work acceptable.) Salary commensurate. Locate anywhere.

Notes

"Sources of Regional and Local Business Statistics" is the title of a report issued recently by the Bureau of Foreign and Domestic Commerce of the U. S. Department of Commerce. In this report are listed all sources of current business statistics which are available for states, cities, countries and miscellaneous regions and districts. The report is in two parts. Part I lists the localities and regions for which data are available currently, with the statistical series pertaining to each; Part II lists all sources used with the key assigned to each for reference purposes. Copies of this report can be obtained for 30 cents each from the Superintendent of Documents, Washington, D. C.

* * * * *

The annual conference of the Finance Division of the American Management Association has been set for January 22 and 23 at the Hotel Roosevelt, New York City. Sessions are being held on the following subjects: New Concepts of the Functions and Responsibilities of the Financial Executives, More Effective Use of Financial Control, Current Tax problems, Financing Our Defense, and Popularizing the Annual Report for Employees and Stockholders.

* * * * *

There has recently been issued as No. II of the College of Commerce Conference series of Ohio State University publications, the "Proceedings

of the Third Annual Institute on Accounting" held at the University on May 17 and 18, 1940. The proceedings contain the following addresses delivered at the Institute:

Accounting Reports—William A. Paton
Published Financial Statements—Victor H. Stempf
Audit Reports for Management—Maurice E. Peloubet
Current Trends in Accounting and Auditing Methods of Companies Listed in the New York Exchange—John Haskell

* * * * *

Reports for ten industries have thus far been issued in the Federal Trade Commission's project for the collection of annual financial reports from a large number of industrial corporations operating in many of the principal industries of the United States. These reports include an analysis of the combined financial data of principal manufacturers operating in each industry under discussion and important financial ratios derived from these data. The reports already published in this series include the following industries: aircraft, cigarette and tobacco products, coke-oven products, bread and bakery products, lead and zinc, agricultural machinery and tractors, food specialties, glass and glassware, automobile parts and accessories, corn products, steel castings, biscuits and crackers, heating and cooking apparatus (except electric), rubber products, and domestic laundry equipment. These Industrial Corporation Reports are available from the Federal Trade Commission, Washington, D. C.

* * * * *

The "Ice Cream Sales Index, January 1 through August 31, 1940," a statistical analysis of ice cream sales in 1940 compared with 1939 for the United States and Canada is now available from the International Association of Ice Cream Manufacturers, 1105 Barr Bldg., Washington, D. C. for the price of $1.00.

Notes on Current Literature

AUDITING THEORY AND PRACTICE. Sixth Edition. Robert H. Montgomery. Ronald Press Co., 15 E. 26th St., New York, N. Y. 1940. viii, 692 pp. $6.00.

The fifth edition of Col. Montgomery's text on auditing was published in 1934. The past seven years have witnessed many developments in the field of auditing, but as Col. Montgomery points out, these developments have been changes in practice and procedure rather than changes in the fundamental principles of public accounting. The present edition, therefore, is essentially a bringing up to date of the fifth edition so far as auditing practices and procedure are concerned. There has been no important change in the organization of the book, but much of the material has been rewritten in the light of recent developments and in line with current thought on the accountant's responsibilities and the methods for meeting them. Undoubtedly this edition, like the former one, will come to be recognized as the most important guide of the professional accountant and the favored auditing text of our colleges and universities.

ADMINISTRATIVE COST ANALYSIS FOR NURSING SERVICE AND NURSING EDUCATION. Blanche Pfefferkorn and Charles A. Rovetta. American Hospital Association, 18 E. Division St., Chicago, Ill., and National League of Nursing Education, 50 W. 50th St., New York, N. Y. 1940. xi, 202 pp. $2.00.

This report is a valuable reference and guide in its particular field and is presented in three parts.

Part I, Scope of Study and Accounting Principles Applied to Nursing Service and Nursing Education, deals with accounting problems involved in determining nursing service and nursing education costs and certain important principles that underlie cost methods and affect cost results.

Part II, Results of Investigations, presents the statistical results of the studies basic to a reliable cost analysis and essential to cost comparisons. It also includes an interesting chapter on the comparative costs in three institutions.

Part III, Cost Procedures, describes in detail the accounting procedure developed by the Committee, applies the procedure to an actual institution, and outlines methods for determining nursing facts essential to the accounting plan. Of particular interest is the concluding chapter which emphasizes the significance of cost accounting as a basis for administrative budgeting.

A general summary includes suggestions as to general principles and methods that will facilitate the operation of the accounting plan.

CREDIT MANUAL OF COMMERCIAL LAWS—1941. National Association of Credit Men, 1 Park Ave., New York, N. Y. 1940. vi, 793 pp. $6.50.

This annual publication brings up to date current developments and regulations in the fields of commercial law and serves as a convenient guide to credit and business executives.

The 1941 volume is divided into seven subject headings, as follows: Part I, Making the Sale; Part II, Secured Sales; Park III, Collecting the Account; Part IV, Insolvency; Part V, Credit Protection on Public Works; Part VI, Federal Regulations Affecting Trade; Part VII, Legal Forms and Index.

Recent Additions to Our Research Library

PROCEEDINGS OF THE 1940 ANNUAL CONFERENCE. Life Office Management Association, 110 E. 42nd St., New York, N. Y. 1940. 277 pp. $5.00.

CURRENT COST LITERATURE

This listing, published on the first of each month, contains all the available references to cost articles and cost material published for the most part during the past month. References are secured from periodicals received at National Headquarters, and also from the Industrial Arts Index, published by The H. W. Wilson Co., 950 University Ave., New York, N. Y.

To secure a copy of any of the publications here referred to, order direct from the publisher. Addresses of periodicals referred to will be found at the end of the references listed.

CERAMIC PLANTS

Paisley, J. R. *How to Operate a Clay Plant Cost System from the Standpoint of Taxes.* Brick & Clay Recorder. November, 1940, pp. 40, 42 +.

COST ACCOUNTING

Reece, J. A. *Costing—Marginal and Conventional.* The Cost Accountant. October-November, 1940, pp. 63-64.

A review of the comparative advantages of each type of costing.

DEPRECIATION, MAINTENANCE & REPAIRS

Murdoch, J. H., Jr. *Use and Abuse of Depreciation.* American Water Works Association Journal. October, 1940, pp. 1647-65.

Ready, L. S. *Sinking-Fund v. Straight-line Depreciation Accounting.* Public Utilities. October 24, 1940, pp. 570-82.

INDUSTRY—GOVERNMENT REGULATION

Ginder, W. R. *Streamlining Defense Contracts.* Journal of Accountancy. December, 1940, pp. 501-4.

Importance of a pre-audit; organization of constructing quartermaster's staff; accounting and auditing branch; organization of field auditor's staff.

Kelly, Lincoln G. *Accounting and Auditing under Cost-Plus-a-Fixed-Fee Contracts.* Journal of Accountancy. December, 1940, pp. 496-500.

INSURANCE COMPANIES

Surplus on Balance-Sheet of Insurance Company. Journal of Accountancy. November, 1940, p. 460.

INVENTORY CONTROL

Davidson, G. M. and Hansen, W. S. *Tool Control Halves Inventory.* Factory Management & Maintenance. December, 1940, pp. 70-71.

LABOR—WAGE SYSTEMS

Mills, N. G. *A Point Plan for Rating Jobs.* Factory Management & Maintenance. December, 1940, pp. 61-68.

A practical point plan that helps to rate factory jobs according to skill, effort and working conditions.

A practical way to reduce office costs in 1941

During the coming year business will be faced with many new conditions, including an increased demand for more reports and statistics.

It is therefore important to consider practical suggestions for doing office work, and getting essential information, in less time, with less effort, and at less cost.

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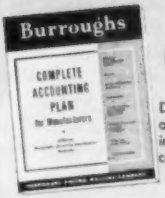

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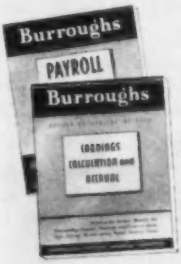

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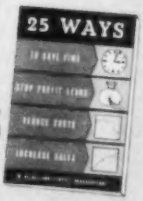

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PRODUCTION CONTROL

Robinson, J. W. *Small Plant Can Have Production Control Too.* Factory Management & Maintenance. November, 1940, p. 64.

Samson, J. B. *Some Factors Affecting Economic Production.* Engineer. September 20, 1940, pp. 181-83.

PUBLIC UTILITIES

See Depreciation.

ROADS AND HIGHWAYS

Tonkinson, James F., Jr. *Uniform Cost Accounting for Road Builders.* Pathfinder Service Bulletin. November, 1940, pp. 1-8.
Monthly accumulations and net totals; contract cost records; plant records general ledger; suggested forms of daily reports; monthly reports; forms illustrated.

STANDARD COSTS

Patton, D. R. *Principles of Standard Costs.* Cost and Management. November, 1940, pp. 292-307.
Procedure involved in compilation of standard costs; cost ratios; responsibility for variances; disposition of variances in accounts; standards in valuation of inventories and as basis for selling price.

STATEMENTS—FINANCIAL

Foulke, Roy A. *The Financial Statement of the Future.* Dun's Review. December, 1940, pp. 12-18.
An accounting survey report and new financial ratio figures for wholesale and retail trades.

TAXATION

Blakey, R. G. and Blakey, G. C. *Two Federal Revenue Acts of 1940.* The American Economic Review. December, 1940, pp. 724-35.
A critical analysis.

Cooper, Walter A. *Excess Profits Net Income and Exemptions under the Income Method.* Journal of Accountancy. December, 1940, pp. 505-26.
The chart annexed, form "A" and its implications; "constructive" base-period income; abnormalities with respect to current year income; adjustment for capital additions or reductions; the tax computation; reorganizations, etc.

Lasser, J. K. *What the New Excess Profits Tax Requires and Permits.* Dun's Review. December, 1940, pp. 18-24.
The law in brief, what it intends, and the two methods it allows for computing the tax.

Articles on Second Revenue Act of 1940. New York Certified Public Accountant. December, 1940.
Articles dealing with various aspects of the new excess profits tax.

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NOTES:—An extra decimal marker placed in Upper Dial at 3 enables direct reading as a percent.

Some operators save time by having decimals set at Upper Dial 4 and Middle Dial 6, and estimating the final digit by a glance at the Remainder Fraction that appears in Middle Dial above Keyboard Dial. (See Marchant Instruction Book, 1940 edition, Page 35.)

Models with Selective Carriage Tabulation should have Tab-Key depressed corresponding to position at left of Upper Dial decimal.

Richter, Robert M. *Excess Profits Tax Computations for* 1940. NOMA Forum. December, 1940, pp. 16-18.
General outline guide for computation of tax.

WAGES, SALARIES & FEES

Carpenter, E. A. *Controlling Costs on Multiple Machine Operations.* Factory Management & Maintenance. December, 1940, pp. 58-60 and 140.

Drivers Paid on Piece Basis, Helps Safety and Efficiency. National Petroleum News, September, 1940, pp. 34-36.

ADDRESSES OF PUBLICATIONS LISTED

American Economic Review, 104 McGraw Hall, Cornell University, Ithaca, N. Y. ($1.25)

American Water Works Assn. Journal, 29 W. 39th St., New York, N. Y. (50¢)

Brick and Clay Record, Industrial Publication, Inc., 59 E. Van Buren St., Chicago, Ill. (50¢)

Cost Accountant (The), Linksview, Sandy Lane, Kingswood, Surrey, England.

Cost and Management, 66 King St., E. Hamilton, Ont., Canada. (50¢)

Dun's Review, 290 Broadway, New York, N. Y. (35¢)

Engineer (The) 28 Essex St., Strand, London, W.C. 2, England.

Factory Management & Maintenance, 330 W. 42nd St., New York, N. Y. (35¢)

Journal of Accountancy (The), 13 E. 41st St., New York, N. Y. (35¢)

Nat'l Office Management Assn. Forum c/o W. H. Evans, Secy., Peirce School, Philadelphia, Pa. ($1.25)

National Petroleum News, 1213 W. Third St., Cleveland, Ohio. (10¢)

New York Certified Public Accountant, 15 E. 41st St., New York, N. Y. (25¢)

Pathfinder Service Bulletin, 330 N. Los Angeles St., Los Angeles, Calif.

Public Utilities Fortnightly, Munsey Bldg., Washington, D. C. (75¢)

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Applications for Membership

The Executive Committee has ruled that the names and addresses of all applicants for membership in the Association shall be published in the Bulletins for two weeks in advance of the date on which they are sent to the Director in charge of Membership for approval. The following applications will be forwarded to the Director two weeks from the date of this Bulletin. Comments in regard to these applications which are received from members of the Association during this two weeks' period will be attached to the application before they are forwarded to the Director in charge.

Akron

Clyde Vincent Cox, The General Tire & Rubber Co., Englewood Ave., Akron, Ohio.

Joseph W. Roberts, 558 Dorchester Road, Akron, Ohio.

Atlanta

Raymond B. Brantley, Atlanta School of Commerce, 1000 Peachtree St., N. E., Atlanta, Ga.

Baltimore

Earl W. Hunter, Continental Can Co., Inc., 3500 East Biddle St., Baltimore, Md.

Boston

John I. Marder, Transcript Press, Inc., 420 Washington St., Dedham, Mass.

Ralph S. Webster, Kendall Mills, West St., Walpole, Mass.

Bridgeport

Russell E. Morgan, 762 King St., Stratford, Conn.

Brooklyn

Joseph Ende, Price, Waterhouse & Co., 56 Pine St., New York, N. Y.

Chicago

Troy A. Chapin, Jr., The Celotex Corp., 919 N. Michigan Ave., Chicago, Ill.

Robert J. Cooney, Central Y. M. C. A. College, 19 So. LaSalle St., Chicago, Ill.

Columbus

Raymond J. Hochadel, 1461 Ashland Ave., Columbus, Ohio.

Dayton

Edmund J. MacMahon, 14 West 1st St., Dayton, Ohio. (Company Transfer from C. Y. Coriell)

Gordon E. Olson, Joyce Cridland Co., 2027 East First St., Dayton, Ohio.

Robert J. Reece, Addressograph Sales Agency, 11 W. Monument Ave., Dayton, Ohio.

Richard C. Saxton, 1840 King Ave., Dayton, Ohio.

Pete L. Thompson, 245 Perrine St., Dayton, Ohio.

Erie

James Harris Laird, 621 Chestnut, Erie, Pa.

Grand Rapids

Gerald L. Beebe, 1728 Peck St., Muskegon Heights, Mich.

Greenwich

Paul W. Holt, Janson Apts., Cross Highway, Westport, Conn.

Hartford

Richard T. Horner, 16 Torwood St., Hartford, Conn.
Louis J. Ibbotson, Pratt & Whitney Div., Niles, Bement, Pond, Charter Oak Blvd., West Hartford, Conn.
Charles E. Littel, Standard Register Co., 410 Asylum, Hartford, Conn.

Houston

Thomas E. Aimers, Brown Cracker & Candy Co., 603 Munger, Dallas, Texas.
L. Warren Baker, H. A. Carter Co., 1104 Continental Bldg., Dallas, Texas.
M. Cecil Baugh, 4128 McKinney, Dallas, Texas.
Jerry M. Benthall, Haggar Co., 6113 Lemmon Ave., Dallas, Texas.
H. H. Boyer, Sun Oil Co., Dallas, Texas.
James W. Campbell, Jr., Standard Brands, Inc., 1010 Southland Life Bldg., Dallas Texas.
Taylor M. Farris, Campbell Taggart Associated Bakeries, Inc., 6211 Lemmon, Dallas, Texas.
Arthur W. Fenton, Borroughs Adding Machine Co., 400 N. Akard St., Dallas, Texas.
Tim K. Ferguson, 5347 McCommas St., Dallas, Texas.
Laurence H. Fleck, School of Commerce, Southern Methodist University, Dallas, Texas.
R. R. Giddens, Texas Bitulithie Co., 111 Commerce, Dallas, Texas.
L. J. Golden, Republic Natural Gas Co., 1505 Federal St., Dallas, Texas.
Donald S. Grubbs, Oil Well Supply Co., P. O. Box 478, Dallas, Texas.
Louis G. James, Lone Star Gas Co., 1915 Wood, Dallas, Texas.
Claiborne H. Johnson, Fleming & Sons Inc., 1116 E. 12th St., Dallas, Texas.
Fred A. Johnson, Felt & Tarrent Co., 521 Santa Fe Bldg., Dallas, Texas.
Jack E. Kelley, American Liberty Pipe Line Co., 902 First Nat'l Bank Bldg., Dallas, Texas.
Benjamin K. Kelly, 3400 Bryn Mawr Dr., Dallas Texas.
E. W. Kerr, 903 So. Adams, Dallas, Texas.
William O. Menefee, Vanatte Hosiery Mills, 6001 Maple Ave., Dallas, Texas.
Thomas R. Murtha, The Atlantic Refining Co., P. O. Box 2819, Dallas, Texas.
Henry Perry, Southwestern Bell Tel. Co., P. O. Box 1780, Houston, Texas.

Ralph W. Rager, Oilwell Supply Co., 2001 North Lamar, Dallas, Texas.

Thurlan S. Ray, New York Mdse. Co., Inc., 1110 Commerce, Dallas, Texas.

Robert G. Ridout, Campbell, Taggart Associated Bakeries, Inc., 6211 Lemmon Ave., Dallas, Texas.

Wilford L. Robinson, Seagoville, Texas.

Donald F. Rowland, American Liberty Oil Co., 903 First Nat'l Bank Bldg., Dallas, Texas.

James H. Squires, Oil Well Supply Co., 2001 N. Lamar St., Dallas, Texas.

Clarence Thomas, Texas Farm & Ranch Pub. Co., 3306 Main St., Dallas, Texas.

L. R. Verschoyle, Tex-O-Kan Flour Mills Co., 2701 Adams St., Dallas, Texas.

Randolph Wallis, The Guiberson Corp., P. O. Box 1106, Dallas, Texas.

Henry A. Yeats, 2500 Commerce, Dallas, Texas.

Virgil M. Yost, American Liberty Oil Co., 904 First Nat'l Bank Bldg., Dallas, Texas.

Jamestown

William W. Koolage, Dresser Mfg. Co., 41 Fisher Ave., Bradford, Pa. (Company Transfer from Jack J. Seyffer)

Kansas City

George E. Geier, 5534 Michigan Ave., Kansas City, Mo.

Kneeland W. Jones, A. E. Weltner & Co., 1020 Dwight Bldg., Kansas City, Mo.

Los Angeles

Thomas Blandi, California Consumer's Corp., 230 West Jefferson St., Los Angeles, Calif.

Robert J. Hopper, Ernst & Ernst, 1110 Fidelity Bldg., Los Angeles Calif. (Company Transfer from Ralph V. Hunt)

Harry F. Ross, Borroughs Adding Machine Co., 747 So. Hill St., Los Angeles, Calif. (Company Transfer from O. B. Moore)

Milwaukee

Alexander Buel, Milwaukee Reliance Boiler Works, 2784 No. 32nd St., Milwaukee, Wis.

William A. Gamble, Milwaukee Western Fuel Co., 2150 N. Prospect Ave., Milwaukee, Wis.

Roger Jensen, 1925 Thurston Ave., Racine, Wis.

New Hampshire

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H. Walter Westman, 337 Lowell St., Manchester, N. H.

New Haven

William C. Davis, 318 Elm St., New Haven, Conn. (Company Transfer from Marcus Robbins)

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Albert G. Reynolds, William Helis, 912 Whitney Bldg., New Orleans, La.

New York

William H. Howe, 334 West 87th St., New York, N. Y.
Edward Charles Liebermann, 39 Park View Drive, Park Ridge, N. J.
George D. Mackenzie, 388 Eighth St., Brooklyn, N. Y.
Frank R. McGuire, 32 Kiawn Ave., Freehold, N. J.

Peoria

Paul F. Bourscheidt, Central Illinois Hospital Service Assn., 703 Central Bank Bldg., Peoria, Ill.
Clair D. Weller, R. G. LeTourneau, Inc., Peoria, Ill.

Providence

Anne A. Anderson, 294 Wayland Ave., Providence, R. I.
Effie R. Fairley, 52 Tallman Ave., Cranston, R. I.
Herbert E. Murch, Goodyear Footwear Corp., 44 Warren St., Providence, R. I.

Richmond

Morgan D. Lalor, 1214 Laburnum Ave., Richmond, Va.

Rochester

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Oren D. Buchanan, Laclede Steel Co., Alton, Ill. (CompanyTransfer from Edward G. Johnson)
Clarence J. Obermeier, 3829 Avondale, St. Louis County, Mo.

South Bend

Victor A. Doyno, 1350 Sorin, South Bend, Ind.

Springfield

Arlin M. Chadwick, Franklin Paper Co., Holyoke, Mass. (Company Transfer from A. R. Ingham)

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Horace D. Woodcock, Forrest E. Ferguson & Co., Mayro Bldg., Utica, N. Y.

Washington

John S. Tipton, Welfare & Recreational Assoc. Public Bldg. & Grounds, 1135 21st St., N. W. Washington, D. C.
Edna J. Welch, J. S. LeFevre, Inc., 2007 K St., N. W. Washington, D. C.

York

Charles A Schoch, H. Wasbers' York City Laundry Co., 30-40 E. King St., York, Pa.
Verne E. Waltimyer, Thompson College, 205 S. Geo. St., York, Pa.

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